REMARKS

I. Group Election

In response to the Restriction Requirement mailed June 4, 2004, Applicants elect to prosecute Group I, consisting of Claim 6, drawn to a method to identify compounds that inhibit binding between an IgE antibody and a FcεRIα protein.

II. Claim Amendments

All pending claims have been canceled and new Claims 23-44 submitted.

The subject matter of Claims 23, 32 and 39 substantially track the subject matter of Claim 6; however, the new claims have been drafted to be more specific in the methods used to identify inhibitors. Claims 23, 32 and 39 are drawn to a method of identifying inhibitors using a model of a FcεRIα/IgE complex having 10 angstroms of deviation from a model defined by the atomic coordinates of Table 1. Support for such models can be found in the specification, for example, on page 136, lines 1-4. These claims also specify the model be used to identify compounds that interact with a site on either the FcεRIα protein or the IgE protein. Support for such interaction can be found in the specification, for example, on page 146, lines 8-19. Claim 32 also specifies the model be used to design an inhibitor. Support for such a design step can be found in the specification, for example, on page 143, lines 11- 16. Claim 39 specifies the inhibitor be identified by screening compounds in a database. Support for such a screening step can be found in the specification, for example, on page 143, lines 11-16.

Claim 24 specifies the compound identification step comprises using computational means. Support for this claim can be found in the specification, for example, on page 143, lines 18-21.

Claims 25, 33 and 40 specify the compound identification step comprises generating the spatial structure of the compound and using computer means to determine if the compound will interact with either the IgE protein of the FcεRIα protein. Support for these steps can be found in the specification, for example, on page 146, lines 8-14, and on page 143, lines 18-21.

Claims 26, 34 and 41 specify the compound identification method comprises testing the compound in an IgE/FcεRIα binding assay. Support for such an assay can be found in the specification, for example, on page 146, lines 8-14.

Claim 27 is drawn to a method of identifying inhibitors using a model of a FcεRIα/IgE complex having 5 angstroms of deviation from a model defined by the atomic coordinates of Table 1. Support for such models can be found in the specification, for example, on page 136, lines 5-11.

Claims 28, 36 and 42 specify the model used in identifying inhibitory compounds be constructed using atomic coordinates obtained by x-ray diffraction of a crystal of a complex between a protein consisting of an amino acid sequence at least about 95% identical to SEQ ID NO:2 or SEQ ID NO:4, and a protein consisting of an amino acid sequence at least about 95% identical to SEQ ID NO:6. Support for such proteins can be found in the specification, for example, on page 136, lines 14-22, through page 137, lines 1-3. While this section of the specification does not literally recite 95%, it recites proteins "at least about 80% homologous." Since the term "at least" could means percentages all the way up to 100%, Applicants contend such language inherently supports proteins 95% identical to the specified SEQ ID NO's. The claim also specifies the crystal belong to spacegroup $P4_12_12$ or spacegroup R32. Support for such crystals can be found in the specification, for example, on page 19, lines 20-21.

Claims 29, 37 and 43 specify the crystal used for x-ray diffraction be made of proteins consisting of SEQ ID NO:2 or 4 and SEQ ID NO:6. Support for crystals of complexes of such proteins can be found in the specification, for example, on page 19, lines 15-20.

Claims 30 and 38 specify the crystal used for x-ray diffraction be produced using specific conditions. Support for such conditions can be found in the specification, for example, on page 193, lines 20-26.

Claims 31, 35 and 44 specify the model used to identify inhibitors be defined by the coordinates in Table 1. Support for such models can be found in the specification, for example, on page 20, lines 4-6.

CONCLUSION

In view of the support offered above, Applicants submit no new matter has been entered into the specification. Applicants request withdrawal of all rejections and solicit allowance of the submitted claims. In the event the Examiner has any questions regarding this Application, the Examiner is invited to contact the undersigned representative at (970) 493-7272.

Respectfully submitted,

Dated: July 6, 2004

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